This listing of the claims replaces all prior versions in the application.

Listing of Claims:

1. (Currently Amended) A method of displaying cardiac information of a patient having a cardiac cycle, comprising:

obtaining a plurality of MRI cine loops of the heart of the patient at a plurality of heart rates, the plurality of cine loops including cine loops including frames of wall motion images at different heart beat rates and at least one cine loop including frames of perfusion images of at least one cardiac location;

synchronizing images in the wall motion cine loops so that heart motion at the different heart beat rates correspond to the same portion of the cardiac cycle and adjusting the at least one perfusion cine loop to have the same number of frames as the wall motion cine loops; and

simultaneously displaying both wall motion cine loops and the at least one perfusion cine loop.

2. (Currently Amended) The method of Claim 1, further comprising adjusting a number of frames in ones of the displayed wall motion cine loops and/or the perfusion cine loop so that the displayed wall motion cine loops and the perfusion cine loop have the same number of frames, wherein each displayed corresponding image of wall motion in the cine loops is displayed at approximately the same percent of time within a heart beat.

3. (Original) The method of Claim 1, wherein obtaining a plurality of MRI cine loops comprises acquiring a plurality of MRI cine loops while a stress test is administered to the patient.

4. (Original) The method of Claim 1, further comprising evaluating the displayed MRI cine loops to determine a presence or absence of coronary artery disease based on the displayed cine loops.

5. (Currently Amended) A method of displaying cardiac information of a patient, comprising:

obtaining a plurality of MRI cine loops of the heart of the patient at a plurality of heart rates, the plurality of cine loops including cine loops including frames of wall motion images and at least one cine loop including frames of perfusion images of at least one cardiac location;

synchronizing the MRI wall motion cine loops to concurrently display images corresponding to the same portion of a cardiac cycle of the patient; and

simultaneously displaying both the wall motion cine loops and the at least one perfusion cine loop,

wherein simultaneously displaying comprises simultaneously displaying a plurality of cine loops for differing locations associated with the heart of the patient for a single dosage of a stress inducing agent.

6. (Currently Amended) A method of displaying cardiac information of a patient, comprising:

obtaining a plurality of MRI cine loops of the heart of the patient at a plurality of heart rates, the plurality of cine loops including cine loops including frames of wall motion images and at least one cine loop including frames of perfusion images of at least one cardiac location;

synchronizing the MRI cine loops to concurrently display images corresponding to the same portion of a cardiac cycle of the patient; and

simultaneously displaying both wall motion cine loops and the at least one perfusion cine loop,

wherein simultaneously displaying comprises simultaneously displaying a plurality of cine loops for a single location associated with the heart of the patient for differing dosages of a stress inducing agent.

7. (Original) The method of Claim 2, wherein adjusting comprises adding frames to

and/or removing frames from at least one of the displayed wall motion cine loops or the perfusion cine loop.

8. (Original) The method of Claim 7, wherein adding frames comprises repeating frames of an MRI cine loop.

9. (Original) The method of Claim 7, wherein the frames that are added to or removed from one of the displayed cine loops such that the added or removed frames are substantially evenly distributed throughout the one of the displayed cine loops.

10. (Currently Amended) The method of Claim 1, wherein the MRI cine loops that are simultaneously displayed include a baseline cine loop of wall motion, a first-dose wall motion cine loop, a peak dose wall motion cine loop, a recovery wall motion cine loop, and a first pass perfusion cine loop, wherein the wall motion MRI cine loops are synchronized compensated such that corresponding frames in each of the plurality of wall motion MRI cine loops correspond to a common portion within [[a]] the cardiac cycle of the patient, and wherein the perfusion cine loop is synchronized to the wall motion cine loops .

11. (Currently Amended) The method of Claim [[1]] 2, wherein adjusting the plurality of MRI cine loops comprises adjusting a duration of display of frames of a least one of the plurality of MRI cine loops such that each of the MRI cine loops has a common total duration.

12. (Original) The method of Claim 11, wherein frames for which the duration is adjusted are evenly distributed throughout the adjusted MRI cine loop.

13. (Currently Amended) A system for displaying cardiac information of a patient, comprising:

means for obtaining a plurality of MRI cine loops of the heart of the patient at a

plurality of heart rates, the plurality of cine loops including cine loops including frames of wall motion images and at least one cine loop including frames of perfusion images of at least one cardiac location;

means for synchronizing the plurality of cine loops of MRI images of cardiac wall motion so that heart motion at the different heart beat rates is synchronized to the same portion of the cardiac cycle;

means for registering the plurality of wall motion cine loops to the at least one cardiac perfusion cine loop; and

means for simultaneously displaying both wall motion cine loops and the at least one perfusion cine loop.

14. (Currently Amended) A computer program product for displaying cardiac information of a patient, comprising:

a computer readable medium having computer readable program code embodied therein, the computer readable program code comprising:

computer readable program code configured to obtain a plurality of MRI cine loops of the heart of the patient at a plurality of heart rates, the plurality of cine loops including cine loops including frames of wall motion images and at least one cine loop including frames of perfusion images of at least one cardiac location;

computer readable program code configured to synchronize the plurality of cine loops of MRI images of cardiac wall motion so that heart motion at the different heart beat rates is synchronized to the same portion of the cardiac cycle; and

computer readable program code configured to simultaneously display both wall motion cine loops and the at least one perfusion cine loop.

15. (Currently Amended) A method of displaying cardiac information of a patient, comprising:

obtaining a plurality of MRI cine loops of the heart of the patient at a plurality of heart rates, the plurality of cine loops including cine loops including frames of wall motion images;

obtaining at least one MRI perfusion image of at least one cardiac location;

obtaining at least one MRI delayed enhancement image; and

simultaneously displaying the ~~both~~ wall motion cine loops, ~~and~~ the at least one

perfusion image, and the at least one delayed enhancement image.

16. (Currently Amended) The method of Claim 15, wherein the at least one perfusion image comprises a plurality of perfusion images to provide a cine loop of perfusion images and wherein simultaneously displaying both wall motion cine loops and the at least one perfusion image comprises simultaneously displaying both wall motion cine loops and the at least one cine loop of perfusion images as well as the at least one delayed enhancement image.

17. (Original) The method of Claim 15, wherein the at least one perfusion image comprises a myocardial delayed enhancement perfusion image.

18. (Currently Amended) A user interface for MRI imaging cardiac stress test evaluation, comprising:

at least one region configured to display a plurality of temporally synchronized cine loops of MRI images of cardiac wall motion at different heart rates; and

at least one region configured to display at least one MRI image of cardiac perfusion.

19. (Currently Amended) The user interface of Claim 18, wherein the at least one region configured to display at least one MRI image of cardiac perfusion comprises at least one region configured to display at least one cine loop of MRI images of cardiac perfusion, wherein the at least one cine loop of MRI images of cardiac perfusion is synchronized to cyclically display at the same rate as the wall motion cine loops.

20. (Original) The user interface of Claim 19, wherein the plurality of cine loops of MRI images of cardiac wall motion are synchronized to one another and the at least one cine

loop of MRI images of cardiac perfusion.

21. (Original) The user interface of Claim 20, wherein at least one of the plurality of cine loops of MRI images of cardiac wall motion is registered to the at least one cine loop of MRI images of cardiac perfusion.

22. (Previously Presented) The method of Claim 1, wherein the displaying is carried out while a patient is in an MRI scanner to allow a clinician to monitor a patient during a stress test.

23. (Previously Presented) The method of Claim 1, wherein the displaying is carried out so that the cine loops are displayed in real time or near-real time thereby allowing a clinician to monitor cardiac status of a patient undergoing a stress test.

24. (Previously Presented) A system according to Claim 13, wherein the means for acquiring and displaying are carried out so that the cine loops are displayed in real time or near-real time thereby allowing a clinician to monitor cardiac status of a patient undergoing a stress test.

25. (Previously Presented) A computer program product according to Claim 14, wherein the computer readable program code is configured to simultaneously display the cine loops in real time or near real time.

26. (Previously Presented) A method according to Claim 15, wherein the simultaneously displaying step is carried out in real time or near real time from the obtaining steps.

27. (Previously Presented) A user interface according to Claim 18, wherein the user interface is configured to display the plurality of cine loops of MRI images of cardiac wall

motion and the at least one MRI image of cardiac perfusion in real-time or near real-time.

28. (New) A method of providing cardiac diagnostic data to a clinician during a patient stress test, comprising:

electronically obtaining a plurality of MRI cardiac images of the patient and generating a plurality of wall motion cine loops including: (a) a first baseline wall motion cine loop, (b) a second wall motion cine loop obtained after administration of a contrast agent, and (c) a third recovery wall motion cine loop obtained after the first and second cine loops;

electronically obtaining MRI perfusion cardiac images of the patient and generating at least one MRI perfusion cine loop;

electronically adjusting a frame rate of the at least one MRI perfusion cine loop to display at substantially the same rate as the wall motion cine loops;

electronically obtaining at least one delayed enhancement MRI image of necrotic cardiac tissue of the patient;

electronically co-registering the wall motion and at least one perfusion cine loops so that the images of the respective cine loops correspond to substantially the same cardiac location of the patient; and

electronically concurrently displaying the wall motion cine loops, the at least one perfusion cine loop and the at least one delayed enhancement image during a stress test.

29. (New) A system for providing cardiac diagnostic data to a clinician during a patient stress test, comprising:

means for electronically obtaining a plurality of MRI cardiac images of the patient and generating a plurality of wall motion cine loops including: (a) a first baseline wall motion cine loop, (b) a second wall motion cine loop obtained after administration of a contrast agent, and (c) a third recovery wall motion cine loop obtained after the first and second cine loops;

means for electronically obtaining MRI perfusion cardiac images of the patient and generating at least one MRI perfusion cine loop;

means for electronically adjusting a frame rate of the at least one MRI perfusion cine loop to display at substantially the same rate as the wall motion cine loops;

means for electronically obtaining at least one delayed enhancement MRI image of necrotic cardiac tissue of the patient;

means for electronically co-registering the wall motion cine loops and the at least one perfusion cine loop so that the images of the respective cine loops correspond to substantially the same cardiac location of the patient; and

means for electronically concurrently displaying the wall motion cine loops, the at least one perfusion cine loop and the at least one delayed enhancement image during a cardiac stress test in substantially real-time.

30. (New) A method for cardiac diagnostic data to a clinician, comprising:

electronically generating (a) a first baseline wall motion cine loop of MRI cardiac images of the patient, (b) a second wall motion cine loop of MRI cardiac images of the patient obtained after administration of a contrast agent, and (c) a third recovery wall motion cine loop of MRI cardiac images of the patient obtained after the first and second cine loops;

electronically obtaining MRI perfusion cardiac images of the patient and generating at least one MRI perfusion cine loop;

electronically temporally synchronizing the at least one MRI perfusion cine loop to display at substantially the same rate as the wall motion cine loops;

electronically concurrently displaying co-registered wall motion cine loops and the perfusion cine loop in respective multiple display windows of a display during a cardiac stress test in substantially real-time while a patient is undergoing a cardiac stress test in an MRI scanner; and

accepting user input to rapidly adjust at least one of contrast, brightness,

gamma or another display level of the baseline cine loop image which is automatically propagated to the other cine loops of the different window displays without adjusting each one separately to thereby provide a clinician with patent information for safer administration of the cardiac stress test.